Please cancel claims 1-32 without prejudice to or disclaimer of the subject matter contained therein.

Please add the following claims:

--33. A method for synthesizing one or more cDNA molecules or a population of cDNA molecules, comprising mixing at least one mRNA template, poly A RNA template or population of such templates with at least one polypeptide having reverse transcriptase activity, under conditions that inhibit, prevent, reduce or substantially reduce internal priming.

34. The method of claim 33, wherein said polypeptide is a reverse transcriptase selected from the group consisting of M-MLV RT, RSV RT, AMV RT, RAV RT, MAV RT and HIV RT, and derivatives, fragments, mutations and variants thereof.

35. The method of claim 34, wherein said reverse transcriptase is reduced or substantially reduced in RNase H activity.

36. The method of claim 33, wherein said conditions comprise annealing or hybridizing one or more primers to said template at temperatures that inhibit, prevent, reduce or substantially reduce internal priming.

37. The method of claim 36, wherein said temperature is within the range of about 10-90°C.

38. The method of claim 36, wherein said temperature is within the range of about 20-75°C.

39. The method of claim 36, wherein said temperature is within the range of about 45-65°C

40. The method of claim 33, wherein said conditions comprise the use of a primer to template ratio between 15:1 and 1:15.

41. The method of claim 40, wherein said primer to template ratio is between 10:1 to 1:10.

42. The method of claim 40, wherein said primer to template ratio is between 5:1 to 1:5.

43. The method of claim 33, wherein said conditions comprise the use of a primer having a length of between 20 and 100 bases.

44. The method of claim 43, wherein said length is between 20 and 75 bases.

45. The method of claim 43, wherein said length is between 20 and 50 bases.

46. The method of claim 43, wherein said length is between 25 and 35 bases.

47. A method for synthesizing one or more cDNA molecules or a population of cDNA molecules, comprising mixing at least one mRNA template, poly A RNA template or population of such templates with at least one polypeptide having reverse transcriptase activity and an inhibitor of the polypeptide having reverse transcriptase activity, under conditions that inhibit, prevent, reduce or substantially reduce the synthesis of non-specific cDNA products when compared to when said inhibitor is absent.

48. The method of claim 47, wherein said inhibitor is an antibody or antibody fragment.

49. The method of claim 48, wherein said antibody or antibody fragment is polyclonal or monoclonal.

50. The method of claim 47, wherein said inhibitor of reverse transcriptase activity prevents or inhibits reverse transcriptase activity at low temperatures.

51. The method of claim 47, wherein said polypeptide is a reverse transcriptase selected from the group consisting of M-MLV RT, RSV RT, AMV RT, RAV RT, MAV RT and HIV RT, and derivatives, fragments, mutations and variants thereof.

52. The method of claim 51, wherein said reverse transcriptase is reduced or substantially reduced in RNase H activity.

53. The method of claim 47, wherein said conditions comprise annealing or hybridizing one or more primers to said template at temperatures that inhibit, prevent, reduce or substantially reduce internal priming.

54. The method of claim 53, wherein said temperature is within in the range of 10-90°C.

55. The method of claim 53, wherein said temperature is within the range of about 20-75°C.

56. The method of claim 53, wherein said temperature is within the range of about 45-65°C.

57. The method of claim 47, wherein said conditions comprise the use of a primer to template ratio between 15:1 and 1:15.

58. The method of claim 57, wherein said primer to template ratio is between 10:1 and 1:10.

13 59. The method of claim 11, wherein said primer to template ratio is between 5:1 and 1:5.

14 60. The method of claim 1, wherein said conditions comprise the use of a primer having a length of between 20 and 100 bases.

15 61. The method of claim 14, wherein said length is between 20 and 75 bases.

16 62. The method of claim 14, wherein said length is between 20 and 50 bases.

G1 17 63. The method of claim 14, wherein said length is between 25 and 35 bases.

64. A method for producing full length cDNA, comprising incubating at least one mRNA template, poly A RNA template or population of such templates with at least one peptide having reverse transcriptase activity under conditions to make one or more nucleic acid molecules complementary to all or a portion of the template, to give mRNA/cDNA hybrids; digesting said mRNA/cDNA hybrids under conditions which cleave the cap structure of hybrid mRNA/cDNA that does not contain full length cDNA; and selecting for said full length cDNA hybrids.

65. The method of claim 64, wherein said conditions which cleave the cap structure comprise digestion with a ribonuclease.

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66. The method of claim 65, wherein said ribonuclease is selected from the group consisting of RNase A and RNase I, or combinations thereof.

67. The method of claim 64, wherein said full length cDNA hybrids are selected by capture, with a cap structure binding molecule, of the cap structure remaining after said digesting.

68. The method of claim 67, wherein said cap structure binding molecule is an anti-cap structure antibody.

69. The method of claim 68, wherein said anti-cap structure antibody is polyclonal or monoclonal.

70 The method of claim 67, wherein said cap structure binding molecule is eIF4E, eIF4E peptides, or eIF4E peptide fragments.

71. The method of claim 65, wherein said conditions comprise an RNase A concentration of between about 0.1 ng/μg mRNA and about 10 ng/μg mRNA.

72. The method of claim 71, wherein said conditions further comprise incubation in 10 mM Tris, pH 7.5, and 1mM EDTA at 37°C.

73. The method of claim 65, wherein said conditions comprise an RNase A concentration of between about 0.1 ng/μg mRNA and about 500 u/μg mRNA.

74. The method of claim 73, wherein said conditions further comprise incubation in 10 mM Tris, pH 7.5, and 250 mM NaCl at 25°C for 30 minutes.

75. The method of claim 65, wherein said conditions comprise RNase I concentrations of between about 0.1 units/μg mRNA and about 1.0 unit/μg mRNA.

76. The method of claim 75, wherein said conditions further comprise incubation in 10 mM Tris-HCl (pH 7.5), 5 mM EDTA (pH 8.0), and 200 mM sodium acetate at 37°C.

77. The method of claim 65, wherein said conditions comprise RNase I concentration of between about 1.0 unit/μg mRNA and about 100 units/μg mRNA.

78. The method of claim 77, wherein said conditions further comprise incubation in 10 mM Tris-HCl (pH 7.5), 5 mM EDTA (pH 8.0), and 200 mM sodium acetate at 25°C for 30 minutes.

79. The method of claim 47, further comprising producing double stranded cDNA.

80. A method for synthesizing one or more cDNA molecules or a population of cDNA molecules comprising:

(a) mixing at least one mRNA template, poly A RNA template or population of such templates with at least one polypeptide having reverse transcriptase activity under conditions that inhibit, prevent, reduce or substantially reduce internal priming and increase the percentage of double stranded cDNA molecules produced, said conditions comprising a temperature between about 45°C to 65°C; a primer to template ratio between 5:1 and 1:5; and a length of said primer which hybridizes to said template ranging from about 25 bases to about 35 bases; and

(b) incubating said mixture with a ribonuclease under conditions which allow for the cleavage of the cap structure from the mRNA/cDNA hybrids that do not contain full length cDNA; and

(c) contacting said mRNA/cDNA hybrid molecules with an cap structure binding molecule; and

(d) selecting for those mRNA/cDNA hybrid molecules that bind to said cap structure binding molecule; and

(e) collecting said selected mRNA/cDNA hybrid molecules.

81. A cDNA molecule or population of cDNA molecules produced by the method of claim 33.

82. A cDNA molecule or population of cDNA molecules produced by the method of claim 47.

83. A cDNA molecule or population of cDNA molecules produced by the method of claim 64.

84. A cDNA molecule or population of cDNA molecules produced by the method of claim 80.

85. A vector comprising the nucleic acid molecule of claim 81.

86. A vector comprising the nucleic acid molecule of claim 82.

87. A vector comprising the nucleic acid molecule of claim 83.

88. A vector comprising the nucleic acid molecule of claim 84.

89. A host cell comprising the vector of claim 85.

90. A host cell comprising the vector of claim 86.

91. A host cell comprising the vector of claim 87.

92. A host cell comprising the vector of claim 88.

29 93. A kit comprising at least one component selected form the group consisting of one or more primers, one or more reverse transcriptase inhibitors, one or more polypeptides having reverse transcriptase activity, one or more nucleotides, one or more cap binding molecules, one or more reverse transcription or polymerase buffers and instructions for making full length cDNA.

94. The kit of claim 93, wherein the length of said primers is between 20 and 100 bases.

G1 95. The kit of claim 94, wherein the length of said primers is between 20 and 75 bases.

96. The kit of claim 95, wherein the length of said primers is between 20 and 50 bases.

97. The kit of claim 96, wherein the length of said primers are between 25 or 35 bases.

98. The kit of claim 93, wherein said reverse transcriptase inhibitors are antibodies or antibody fragments.

99. The kit of claim 98, wherein said antibodies or antibody fragments are polyclonal or monoclonal.

100. The kit of claim 93, wherein said polypeptides having reverse transcriptase activity are selected from the group consisting of M-MLV RT, RSV RT, AMV RT, RAV RT, MAV RT and HIV RT, and derivatives, fragments, mutations and variants thereof.

101. The kit of claim 100 wherein said reverse transcriptase is reduced or substantially reduced in RNase H activity.

102. The kit of claim 93, wherein said cap binding molecule is an anti-cap structure antibody.

103. The kit of claim 102, wherein said antibody is polyclonal or monoclonal.

104. The kit of claim 93, wherein said cap binding molecule is eIF4E, eIF4E peptides, or eIF4E peptide fragments.--